



COLONY OF MAURITIUS



Annual Report
of the
Department of Agriculture
1940

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PRINTED AND PUBLISHED BY
J. H. BOWKEY, GOVERNMENT PRINTER.
PORT LOUIS, MAURITIUS, 1941.



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PART I

1. Meteorological Conditions

The year began with a shortage in rainfall which, though not acute, persevered till the middle of April. From then, onwards, favourable rains were received while temperature remained persistently above normal.

Winter conditions were not generally favourable to cane maturation owing to abnormal heat and moisture.

2. Sugar Production

The total cane reaped approximated 2,762 thousand metric tons or 33 per cent above last year's production, and was only 2 per cent below the record tonnage reaped in 1937.

The average sucrose content was 13.31 as against 12.71 last year, and the average extraction of sugar per cent of cane 11.45 as against 10.8 in 1939. The total production of commercial sugar was 316.25 thousand metric tons as against 229.46 last year, and constitutes the second best sugar production in the Island.

The amount of raw sugars produced in 1940 was 276.83 thousand metric tons, while granulated whites (Vesous) were 38.45, and low sugars, 0.97 thousand metric tons.

3. Area under Sugar Cane

During the early months of 1940, and Agricultural Census was carried out and the total area under cane was found to be 150,845 acres or 33 per cent of the area of the colony. Estate cultivation covered 107,029 acres; of the balance of 43,816 acres, 38,258 acres were cultivated by Indian small proprietors. The total area under cultivation by Indians was 54,668 acres comprising, over and above the 38,258 acres above mentioned, 5,515 acres of Indian sugar estates and 10,295 acres of lands cultivated by Indians as leasees or non-Indian estates.

4. Sugar Market and disposal of the Sugar Crop

The total production was purchased by Government at sterling prices equivalent for Raws to about Rs 7.80 net per 50 kilos and for vesous to about Rs. 8.85.

The total sugar exported during the 1939-40 year (1st August, 1939 to 31st July, 1940) was 217,867 tons, of which 191,694 went to Great Britain; 17,134 to Canada; 8,634 to Hong Kong and the rest

to other places. The amount exported between 1st August and 31st December 1940, was 112,366 metric tons, practically the whole of which went to Great Britain.

The local sugar consumption in 1939-40 was 12,045 metric tons.

5. Labour and Cost of Living

During the year the cost of living for all classes of the community increased steadily. During the first quarter of 1940 it was 113.9 and during the last 129.1, as against 100 pre-war. The wages of agricultural labourers have been gradually increased in view of this increase in the cost of living.

6. Importation of Agricultural Machinery and Fertilizers

In 1940, machinery to the value of Rs. 864,844 was imported and tramway material to the value of Rs. 49,658. Farm tractors and ploughs to the value of Rs. 124,383 were also imported. A total of 24,948,743 kilos of chemical fertilisers valued at Rs. 4,482,774 were imported during the year.

7. Insect Pests and Plant Diseases

During the year, there was a recrudescence of *Phytophthora* in certain localities of the North, Centre and South of the Island. A mission was sent to Madagascar with a view to obtaining parasites to control the cane borer. Mass breeding of the egg parasite of the borer (*Trichogramma evanescens* Westw.) is being carried out on an experimental scale. Of the borer parasites introduced from Ceylon, one species, *Xanthopimpla stemmator* F. has been recorded in large numbers in its localities of liberation, and its dissemination has been extended to other infested localities.

On pineapple there has been no great increase in wilt disease owing, probably, to the systematic use by planters of the diesel oil emulsion against the pest (*Pseudococcus brevipes* Ckll.)

On tobacco, Black Shank disease was fairly prevalent in all plantation during the earlier parts of the year, while Mosaic was more in evidence than during the previous year. Mildew, *Oidium* sp. and leaf spotting caused by *Cercospora nicotianae* Ell. & Ev. have also caused appreciable damage.

8. Tobacco

During the year under review, 294,012.6 kilos of tobacco were produced consisting in—

Flue cured	...	198,720.2 kilos.
Air cured	...	95,292.4 „
Total	...	294,012.6 „

Of this quantity, 25,684.5 kilos were received from Rodrigues.

9. Fibre, Pine Apple, Tea and Coconut

Market quotations for fibre were irregular and freight difficult, nevertheless, exportations were much better than last year and the total for 1940 was 973 metric tons valued at Rs. 165,881.

In relation to pineapple, conditions during the year have been unsatisfactory owing to the dearth of fertilizers arising from the war. The pineapple factory turned out 3,036 cases only. The exportation was valued at Rs. 32,013.

With regard to tea, progress continues in evidence. The production at Bois Cheri for 1939-40 was 40,000 kilos. At Curepipe tea garden, the production for 1940 was 26,500 kilos.

The total acreage under tea in 1940 was 754 acres.

In 1940, the export of copra was 2,037 metric tons valued at Rs. 232,894. There was no exportation of coconut oil. During the year an Officer was sent on mission to South Africa to study the hydrogenation process in relation to refinement of coconut oil.

10. Alcohol

The total quantity of alcohol distilled for human consumption amounted to 534,261 litres and the quantity distilled for industrial purposes to 1,757,810 litres. The exportation of rum was 1,843,234 litres. In 1940, there were six distilleries at work in the colony—all except one annexed to sugar factories.

11. Veterinary and Livestock

The experiment station at Palmar is functioning normally, although at the beginning of the year there were casualties among the pure bred charolais imported previously.

In view of observations in local herds, it appeared that B.C.G. vaccination, as practised locally, is not giving the anticipated results. In consequence, the application of the B.C.G. vaccine has been discontinued temporarily and the tuberculin test is being applied to all animals in all herds. The measure has been extended to Rodrigues.

During the year, the sanitary condition of cattle was, in general, satisfactory and the occurrence of tripanosomiasis has been insignificant.

In 1940, importation of bullocks from Madagascar for food purposes numbered 2,900 heads, valued at Rs. 236,304.

As a result of the Agricultural Census carried out in 1940, the number of bovines in the Island was found to be 29,077, while goats numbered 27,077, pigs 3,165, and sheep 1,909.

12. General

I wish to record my deep appreciation of the measure of assistance which I have unhesitatingly been accorded by the staff of the Department during the year.

The work of the Sugarcane Research Station and the various Divisions has, as usual, been conducted in an atmosphere of close co-operation with the planting community of the Island. To the very large number of cultivators—members of all classes of the community—who have afforded opportunities for special investigation, I take this opportunity of presenting the gratitude of this Department.

G. E. BODKIN.

Director of Agriculture.

PART II

Report on the Sugarcane Research Station and Divisional Reports of the Department of Agriculture

Sugarcane Research Station

The work of the Station has in general followed upon the usual lines, a fairly full account being given in the Eleventh Annual Report of the Sugarcane Research Station.

The breeding programme elaborated by the Geneticist was successfully carried out, and a large seedling population was raised, out of which about 18,000 were planted out in the field before the end of the year. The testing of selected seedlings was continued, but no fresh varieties were released for general propagation. The three varieties M.171/30, M.72/31 and M.134/32 have been tested in many localities, and recommendations as to their suitability for different districts have been made.

In the Chemical Division, the chief line of research in the laboratory has been a further study of the method of foliar diagnosis, and it is now considered that if certain precautions are taken, the method is a reliable one for detecting deficiencies of potash or phosphate in the soil. A large number of field experiments dealing with both fertilizers and cultural methods were reaped during the year.

The Botanical Division has been largely engaged upon the work of evaluating factors bestowing resistance in the sugarcane crop to the two chief insect pests, viz., *Phytatus smithi* (Arrow) and stem borers. Interesting results have been obtained and it is considered that some definite progress has been made. Physiological methods of detecting plant food deficiencies have also been tried; in this connection it would appear that the method of leaf injection does not afford much promise. A number of field experiments dealing with specific problems have also been conducted.

The Officer in charge of the Station has also been made responsible for administering the scheme for the rationing of chemical fertilizers (sulphate of ammonia and nitrate of soda). The quantity of sulphate of ammonia available was sufficient to supply about 60 per cent of the needs of all growers, and the arrival of a special shipment of nitrate of soda and Chilean nitrate of potash in November 1940, was sufficient to make up for the lack of sulphate of ammonia. Consequently, there has been no need for the 1941 crop to go short of nitrogenous fertilizers.

N. CRAIG, *Officer in charge,*
Sugarcane Research Station.

Agricultural Division

1. Central Experimental Station, Reduit

Sugarcane.—The following new varieties of canes were propagated for ultimate distribution to planters, if released: M.168/33, M.211/33, M.88/34, M.112/34, M.36/35, M.95/35, M.177/35, M.185/35, M.163/36.

40,055 cuttings of the varieties M.171/30, M.72/31, M.134/32 were sold to planters for Rs. 801.10. A further 69,375 cuttings were distributed free, for propagation in the Lallmatie-St. Julien area. 59.5 tons of canes were sold to Trianon factory.

Pineapples.—The selection of the Smooth Cayenne pineapple continued on the same lines as previously. The fruit from the Station's fields were consigned to the Canning Factory.

Food Crops.—Thousands of cuttings of manioc and sweet potatoes were distributed. An area of 10 acres, hitherto under grass, was planted with foodcrops and will be maintained as a further reserve of planting material.

Seeds of six varieties of maize were imported from South Africa. Some of the seeds were sold to estates and planters. The varieties are: Potchefstroom, Anveld, Peruvian, Natal, Sahara and Hickory King.

2. Barkly Experimental Station, Beau Bassin

Plants and seeds were raised for sale to the public and for free distribution to Government institutions, school gardens and allotments. Among the more interesting of these were seeds of Adlay (*Coix Lachryma-Jobi*) and of various varieties of soy-beans. The revenue for sale of plants amounted to Rs. 1,062.09.

Plants and seeds were exchanged with various institutions abroad.

3. Royal Botanical Gardens, Pamplemousses

The gardens were kept in good condition throughout the year. The catalogue of plants is being revised and brought up to date.

Economics Section.—4,300 cane cuttings, and 44,320 kilos of canes not wanted for propagation, were sold. Plantations of foodcrops were maintained. Several varieties of groundnuts were imported and propagated, and the first crop obtained from most of them was encouraging.

Sales of plants and seeds during the year amounted to Rs. 198.10. Among others, 147 litchi layers and 220 mango grafts were sent to other stations for sale. The litchi crop was sold by public auction for Rs 150.

4. Abercrombie Nursery

Numerous plants, mostly ornamental, were raised and sold, the revenue being Rs. 829.99.

5. School Gardens

The 31 registered schools gardens were visited at regular intervals throughout the year by Agricultural Instructors and the Assistant Agricultural Officer. These visits were not mere inspections, but short lectures were also delivered to the pupils and practical classes were held,

In the annual competition for the best all-round garden, the first prize of Rs. 40 went to Plaines des Papayes Government School, the second prize of Rs. 30 to Poudre d'Or Government School, and the third prize of Rs. 25 to Highlands Road Church of England Aided School.

6. Visits to Estates and Planters

Sugar estates and other plantations of all kinds were visited during the year by the staff of the Agricultural Division for the purpose of maintaining contact with the planting community, of advising with regard to the use of commercial fertilisers and of demonstrating methods of control of plant pests and diseases.

7. Allotments

At the end of the year there were 140 allottees distributed as follows, in various areas: Malherbe, 18; Bigara, 8; Barkly, 54; Bois Marchand, 34; Richelieu, 24; Elysée, 2.

The Allotments Sub-Committee met several times during the year. All allottees continued to benefit from the advice regularly dispensed by the Assistant Agricultural Officer, who is entrusted with this work.

8. Pineapples

The last of the three Pineapple Experimental and Demonstration Stations—all of which were opened in 1937 with the assistance of a grant of £1,000 from the Colonial Development Fund—was closed after the fruits from the second harvest had been picked and sold to the Canning Factory. Among the more important facts confirmed by various trials, the advantages to be derived from a closer spacing of the plants than had hitherto been the case in Mauritius were prominently brought out. For best returns, there should not be less than 10,500 plants per acre. With 6,200 plants as formerly, the plantation will often be uneconomical. The data obtained at the Stations were subjected to complete statistical analysis and final results will be published in 1941.

It is estimated that there were about 60 acres under Smooth Cayenne pineapples at the end of 1940. Of this area, 43 acres had been planted with the assistance of loans. All pineapple plantations were visited at frequent intervals for control and advice.

9. Potatoes

A study of the potato, as a subsidiary agricultural industry, was completed and a bulletin was published on the subject. In view of the war, this has been a useful contribution so far as the foodcrop problem is concerned. The economic aspect of the question was not the least important feature of the work which also embodied the results of the field experiments carried out with potatoes since 1937.

10. Tea

The position of the tea industry in relation to local market conditions and to competition with imported teas was the object of searching investigation. A report on the matter was submitted to Government.

11. Foodstuffs

In connection with the scheme for making the colony self-supporting in starchy foodstuffs should it be cut off from its usual sources of rice, this Division was instrumental in preparing a planting programme which was calculated to provide for the maintenance of a sufficient supply of planting material throughout the duration of the war.

12. General

1. On 10th December, the Senior Agricultural Officer sailed for Rodriguez, where he is to co-operate with the Assistant Conservator of Forests in the task of demarcating areas which should be considered as "critical" from the point of view of erosion.

2. The Agronomist, who was mobilized for military duty on the 12th August, was released from active service on 30th September, his civil duties being considered necessary to the Colony's war effort.

3. The Veterinary Division had, during the whole year, the valuable assistance of the Agricultural Officer in connection with the work at the centre for the improvement of beef cattle at Palmar.

4. The Assistant Agricultural Officer, in addition to his normal duties, acted throughout the year as an additional Inspector of the Co-operative Credit Societies.

5. Agricultural Instructor Rivalland, who is a registered Agricultural Chemist, was seconded for duty with the Central Board during the sugar crop season.

6. The Senior Agricultural Officer delivered the usual course of lectures on agricultural subjects to the students of the Agricultural College.

13. Conclusion

In conclusion, I feel sure that the Senior Agricultural Officer, who is at Rodriguez at the time of writing, would wish me to record on his behalf, his appreciation of the loyal support he has received during the course of a heavy and difficult year from the officers of the Agricultural Division.

A. N. COOMBES.

Agronomist.

Co-operative Credit Societies Division

The following changes and addition were made in the personnel of the Division:—

(a) Mr. M. Burrenchobay, Assistant Registrar, and Mr. L. Madileo, Senior Inspector, were designated Joint Registrar and Assistant Registrar respectively ;

(b) a whole-time Junior Inspector was added to the strength of the Inspectorate.

The number of new Societies registered during the year was 18. Of these 10 were in Mauritius and 8 in Rodriguez. On the other hand, one Society was dissolved. Thus, the number of Societies in active operation on the 31st December, was 54 in Mauritius and 9 in Rodriguez as compared with 45 and 1 respectively last year.

Members of the Societies previously existing, continued to increase their shareholdings. Advances from State Funds totalling Rs 28,750 were made to 9 Societies operating in Mauritius and 7 in Rodriguez; repayments amounting to Rs. 3,230 were effected to the Treasury as instalments due by 9 Societies. The aggregate amount of the advances due to Government as on the 31st December was Rs. 44,760 and was held by 23 Societies.

Loans on personal security with the maximum publicity within the Societies were issued almost exclusively for agricultural purposes. The proportion for purchasing cattle, repairs to huts, paying costs of notarial deeds, freeing land from debt, marriage, medical treatment and funeral expenses, was 3.73 per cent. The great bulk of the loans were naturally made in connection with cane cultivation and have been applied for the performance of cultivation, purchase of chemical fertilizers and manure and for reaping their crop. In localities in which these Societies are operating, it is possible to trace distinctly their effects in improving cultural methods.

Apart from this, in places where the raising of foodcrops and vegetables is practised, an appreciable amount of the capital has been applied for the purpose of raising these crops, a fact which is noteworthy in a Colony which is altogether too dependent on imported food.

The standard of recovery during the year was definitely satisfactory.

With the introduction of the "Sale and Purchase of Canes" Ordinance, No. 27 of 1939, which now renders it compulsory for every agriculturist to enter into a contract for the sale of his sugarcanes, the facility accorded by the Co-operative Credit Societies Ordinance has been availed of and transactions are recorded in respect of cane contracts for the collective sale of members' canes to the factories.

The work of the Co-operative Credit Societies forms the subject of a special report issued after the close of the financial year. The details of the working thereof for the financial year ended 30th June, 1940, are shown in such report.

M. BURRENCHOBAY,
Joint Registrar, C. C. Societies.

Division of Plant Pathology

1. Incidence of Sugarcane Diseases

There was no serious outbreak of cane diseases during the year. Further cases of root disease on P.O.J.2878 were detected in Flacq, Grand Port and Riviere du Rempart. Pineapple disease (*Ceratostomella paradoxa* (de Seynes) Dade), was of frequent occurrence in Flacq and Grand Port. Towards the end of the year several cases of red rot (*Colletotrichum falcatum* WENT.) were observed on the popular new seedling M.134 32. A survey was therefore started to determine the extent of the attack and has not been completed at the time of writing. Available data indicate however that canes planted early in the season (grande saison) are more susceptible than those planted later in the year (petite saison). Although the disease is widespread particularly in the southern districts, the percentage infection is small. It is thought that the drought prevailing in October and November has been an important factor in momentarily decreasing the resistance of this variety.

2. Research Work on Sugarcane Diseases

(a) SMUT (*Ustilago scitamineae* (RAB.) SYD.)

New experiments on smut included:—

- (i) the incidence of the disease in plots planted with cuttings from infected and healthy fields,
- (ii) a study of a wide range of specimens with a view to determine the species which occur in the island.

Observations on experiments mentioned in last year's report were continued.

(b) GUMMING DISEASE (*Bacterium vasculorum* (COBB.) GR. SM.)

The development of gumming disease under different climatic conditions is being investigated on a resistant (M.171 30), a tolerant (D 109) and a susceptible (55 1182) variety. The trials are situated at Pamplemousses (200'), Réduit (900'), and Curepipe (1800'); three centres which experience widely different climatic conditions.

(c) RED ROT. (*Colletotrichum falcatum* WENT.)

In collaboration with the Geneticist, Sugarcane Research Station, experiments are being conducted with a view to develop a method to test the resistance of new seedlings to this disease.

(d) PINEAPPLE DISEASE (*Ceratostomella paradoxa* (DE SEYNE) DADE).

Several trials were laid out with Ceresan (1:1,000) and Bordeaux mixture (4-4-40) in localities where pineapple disease is common. In all cases both treatments favoured germination, but there was no significant difference between the treatments.

(e) LEAF SCALD. (*Bacterium albilineans* ASHBY).

A study by the Assistant Plant Pathologist on the artificial hosts of *B. albilineans* was concluded during the year, and a summary of the results published in *La Revue Agricole de l'Île Maurice*, vol. XIX, page 12.

3. Diseases of Tobacco

Two hundred and fifty inspections of tobacco fields were made by the Plant Inspector during the year. Black Shank was common in fields and nurseries, particularly in the Black River district, early in the season. The number of infected plantations for the whole island was 13 per cent. as against 25 per cent in 1939.

Mosaic was observed on 52 plantations (out of 383 planters) an increase of about 20 per cent. on the previous year. Granville Wilt was also of more frequent occurrence than during the previous year. Mosaic symptoms were recorded for the first time on the following plants growing in the vicinity of tobacco fields: *Albizia Lebbek* Bent., *Mirabilis Jalapa* Linn., *Lebena diversata* Linn., and *Sesuvium* sp. Inoculations of leaf extract into tobacco plants were negative.

4. Miscellaneous

(a) DISEASES OF FOREST TREES.

Studies on the control and spread of "Tatamaka" (*Calophyllum Inophyllum* var. *tatamaka*) wilt caused by *Haploglyphium* sp. were continued in collaboration with the Forest Department. Permanent quadrats were marked and kept free of exotic undergrowth. The number of infected trees in those plots are counted periodically. An investigation on the cause of a root disease of *Pinus lada* was started in December, 1940.

(b) CONTROL OF *Hickstramia indica* MERR.

Experiments on the control of this noxious weed of grassland by spraying with a strain of *Phytophthora parasitica* Dast. were continued during the year. The results obtained are briefly summarised herewith.

- (i) This strain of *Phytophthora* is not pathogenic to tobacco,
- (ii) the fungus should be grown on boiled rice, and cultures from 4 to 6 weeks old used for spraying,
- (iii) spraying should be carried out on a dull day or in the late afternoon after cutting the plants about 6" above ground level,
- (iv) the host is least resistant during the dry season.

(c) NEW RECORDS OF PLANT DISEASES.

New records of plants diseases included a bacterial leaf spot of manioc and a bacterial blight of *Argemone mexicana* Linn., which were studied in detail by the Assistant Plant Pathologist. Pink disease (*Corticium salmonicolor* Berk. and Br.) of the apple, *Cassia* (*laevigata* Willdn.)? and *Populus* sp., Foot rot (*Pythium* sp.) of *Dendrobium* spp., mosaic of *Lilium candidum* Linn., leaf spot (*Entyloma Dalhiae* Syd.) of *Dalhia*, as well as 37 other diseases of minor importance.

5. General

The following articles were published during the year.

P. O. Wiehe: "La Maladie de la Racine de la P. O. J. 2878" *Revue Agricole de l'Ile Maurice*, xix, 8-11, 1940.

P. O. Wiehe: "L'Influence des Engrais et de la Saison sur le Développement du Eye Spot de la Canne à Sucre," *Revue Agricole de l'Ile Maurice*, xix, 57-61, 1940.

P. O. Wiehe: "Le Knife cut de Cocotier," *Revue Agricole de l'Ile Maurice*, xix, 101-103, 1940.

G. Orian: "Notes préliminaires sur quelques hôtes artificiels du *Bacterium albilineans* Ashby, *Revue Agricole de l'Ile Maurice*, xix, 12-13, 1940.

The writer wishes to acknowledge the valuable assistance received from the Imperial Mycological Institute in the identification of specimens.

P. O. WIEHE,
Plant Pathologist.

Sugar Technological Division

1. Visits to Factories, Investigations, etc.

During the crop the thirty-seven factories of the Colony were visited by the Sugar Technologist, some repeatedly, and investigations were carried out.

2. Mill Work

The independent control of the weight of primary and secondary juices in a sugar factory during the last two crops has shown that between 80 and 81 per cent. of the sucrose extracted by the milling plant, composed of one heavy duty cane knives, one Krajewski crusher and three three-roller mills, with an imbibition of 25 per cent. cane, is contained in the primary juice. It is the first time that such a control has been applied in the Colony.

3. Clarification of Cane Juice

(a) The complex process of clarification applied in a factory in 1939, was again followed this year. The experience gained during the first crop of its application permitted slight adjustments to the plant during the off-season. The results were still more satisfactory than the previous year and the plantation white sugar produced was of a very high standard.

(b) A new process of clarification of the secondary juice was applied in a sugar factory and patented. The process is as follows: The secondary juice is heated to the boiling point and treated with an excess of lime—pH 10.5 to 11.0. After a few minutes of contact, it is mixed with the primary juice and the mixed juice is then dealt with as usual. The results were astounding. There was a considerable reduction of viscosity of massecuites, with a corresponding increase of centrifugal capacity; a decrease of purity of final molasses and a marked gain in recovery.

4. Controle Mutuel and Factory Results

Thirty-one factories contributed to the fortnightly returns which were distributed as usual amongst contributing factories.

The final figures were forwarded by all the factories in the Colony. The sucrose content of the cane averaged 13.31 as compared with 12.71 and 13.87 in 1939 and 1938 respectively. This figure is slightly above the average which is 13.08 for the last sixteen years. The quality of juice was satisfactory. Recovery was the same as last year, on an 85 per cent. purity basis.

5. Educational

Lectures and practical demonstrations at the Mauritius Agricultural College were delivered by the Sugar Technologist. Students were taken on visits to sugar estates. The lectures in Engineering and Surveying were delivered by Mr. F. North-Coombes, of St. Aubin Sugar Factory.

LOUIS BAISSAC,
Sugar Technologist.

Division of Entomology

1. Staff

During the year under review, the Entomologist devoted almost all his time as Deputy Chief Censor. The Assistant Entomologist remained in charge of the Division during the same period. The second Phytalus Officer, Mr. L. P. Regnard, who was engaged upon the shipment of tachinid parasites for Phytalus, returned from Durban on 24th February, and left again at the beginning of March for Madagascar in search of Cane Borer parasites. Owing to the war conditions, this officer had prematurely to return to Mauritius at the end of September. Mr. L. Orioux, an assistant working on the reception and breeding of borer parasites, joined the Pioneers Corps in December; he was subsequently replaced by Mr. F. Nadeau. The projects of entomological missions to the Far East and other countries, for search of parasites to further the control of Cane Borers and Phytalus were unfortunately frustrated by the prevailing war conditions.

2. Pests of Sugarcane

(a) *Phytalus Smithi* ARROW.

Though, on some estates, there had been this year a recrudescence of infestation, yet on the whole, it can hardly be said that the position was worse than what it was before the suppression of the hand collection campaign. As in the preceeding years, the distribution of parasites was systematically carried out; over 4,000 *Campsomoris phalerata* Sauss. were distributed in twelve highly infested centres. Of all the tachinids imported in the preceeding years, no recovery has yet been reported. Only one specimen of the giant toad *Bufo marinus* L. was captured in

the up-country, at Curepipe. No other captures were recorded in all the original centres of liberation of this predator. As usual, propaganda for the planting of *Phytalus* resistant varieties, as released by the Sugarcane Research Station, were carried out by various officers of this Division during their visits on estates, and the practice of short season planting in *Phytalus* areas was encouraged wherever this practice was possible.

(b) *Borers.*

Co-operation with the Sugarcane Research Station in *Phytalus* resistance work was maintained. An investigational work in Madagascar was carried out during the period 10th March to 24th July. As a result of the extensive surveys carried out in Nossi Be, one larval parasite, *Archibracon* sp. ?, was found in this Island attacking one species of *Diatraea*, nearly the same as the one occurring in Mauritius. Owing to shortage of communication, due to war conditions, only four shipments of parasites could be effected and consisted of a total of 245 insects which were liberated in 6 infested borer localities in the Island. *Xanthopimpla stemmator* Thunb. was relatively abundant at its original place of liberation. A total of 1,671 were subsequently collected therefrom and liberated in 38 borer infested localities, in colonies of 40-80 individuals per colony. Over 175,000 of the Eulophid wasp, *Trichospilus pufwora* Ferr., were bred in laboratory and liberated in cane fields. This parasite was found to exhibit an inclination to attack the chrysalis of the pink borer: *Sesamia inferia* Stoll. The laboratory breeding of the Braconid, *Bracon albolineatus* Cam., ended in April, when the last individuals died. The cause of mortality was investigated. It was found that this might have been due either to a partial degeneration of the parasite owing to much inbreeding or to the breeding on host larvae of inappropriate size and age. This parasite has not yet been recovered. Owing to war conditions the electrical breeding unit for the mass breeding of the egg-parasite *Trichogramma evanescens* West. was completed only by July, 1940. The first liberation of this parasite on an experimental basis, on 25 acres, in one centre in the north of the Island started early in January, 1941.

3. Pests of Stored Products

Experiments were carried out in the laboratory with a view to obtaining the best local methods available for the storage of maize for human consumption and for seeds purposes. Full results have been published in the *Revue Agricole de l'Île Maurice*, Nov.—Dec. 1940. Owing to war conditions, the usual fumigation of the stores of the Tobacco Warehouse could not be regularly carried out, as some of the rooms nearby the store rooms were occupied by the Mauritius Territorial Force. The successful operation of the Phantomyst apparatus has however largely eliminated the necessity of fumigation. A survey of stored pests at the Government Granary, Port Louis, has been conducted; results and recommendations were accordingly submitted to the Comptroller of Customs and the Food Controller.

4. Miscellaneous Pests

(a) FRUIT FLIES (*Dacus* spp.)

The laboratory breeding of the fruit flies parasites, *Dirhinus auratus*, was continued as in the preceeding year. Only 200 individuals were released. A colony of 74 individuals was liberated at Rodriguez.

(b) BEAN FLY (*Agromyza phaseoli* COQ.)

It results from a series of experiments that the spraying of young bean plants 4 days old after emergence from soil with Diesel oil-clay emulsion at 1 per cent to 2 per cent oil, has given very satisfactory results. The percentage of treated plants resisting the fly attack is twice as much as in the untreated ones. According to the planting season, a second oil-spray 7 to 10 days after the first application is recommended.

5. General

Wood cases from Indo-China containing cigarettes, helmets, candles, soaps, etc., were found at the Custom Warehouse heavily attacked by the following insects: *Heterobostrychus aequalis* Waterh. and *Dinoderus* sp. As these insects are not recorded in the Mauritius fauna, immediate steps were taken for destruction by fire of all infested parts of the consignments.

A. MOUTIA,

Assistant Entomologist.

Chemical Division

Investigation Work

Butter

An investigation was undertaken in order to test the genuineness of the different brands of butter, imported from Denmark, Australia and Kenya respectively. Butter made locally was also analysed, the chief chemical characteristics are given in the following table —

Origin	Moisture	Iodine value	Saponification value	Reichert Wollny	Polenske
Australia	15.7	33	232	30.9	3.1
"	15.8	35	231	31.1	2.7
"	14.8	31	235	31.9	3.4
"	15.1	32	231	28.4	3.0
"	14.8	34	231	30.6	3.4
"	15.4	37	229	30.1	2.7
"	13.5	27	232	30.2	2.4
Kenya	14.5	30	231	29.3	2.7
Denmark	14.6	29	231	32.2	3.0
"	—	28	234	31.8	3.4
Mauritius	19.5	32	229	29.3	1.9
"	—	32	231	30.4	2.5

Ensilage

An experiment on ensilage was performed at Palmar Experimental Station using as material *Herbe Bourrique* (*Stenotaphrum Dimidiatum*); the sinking was considerable, the superstructure was removed after one month. The result was satisfactory, 75.8 per cent was palatable.

Mineral Content of Pastures

A series of experiments was started during the year under review at Palmar Experimental Station and at the Government Dairy, Curepipe. The objects were:

(a) to note the seasonal variations on pure species grown under similar soil conditions and receiving different fertilizers treatment, and

(b) the effect of treatment of fertilizers on pure species grown on sandy soils.

The following table gives the seasonal variations in nitrogen and mineral content on *Accacia* (*Leucoena Glauca*).

		Nitrogen %		Ash %		CaO %		P ₂ O ₅ %		K ₂ O %	
1939	May	...	4.1	...	7.2	...	2.00	...	0.34	...	2.63
	June	...	4.4	...	8.0	...	1.92	...	0.30	...	2.69
	July	...	4.2	...	8.5	...	1.15	...	0.31	...	3.34
	August	...	4.1	...	8.2	...	1.73	...	0.31	...	2.74
	September	...	3.8	...	8.7	...	2.51	...	0.24	...	3.97
	October	...	4.0	...	8.1	...	2.19	...	0.50	...	4.02
	November	...	3.9	...	9.1	...	2.56	...	0.33	...	3.19
	December	...	4.8	...	10.1	...	2.37	...	0.47	...	2.39
	January	...	4.5	...	7.5	...	1.27	...	0.41	...	2.56
1940	February	...	4.7	...	8.3	...	1.24	...	0.37	...	2.98
	March	...	4.4	...	7.3	...	1.75	...	0.30	...	2.74
	April	...	3.5	...	6.8	...	1.57	...	0.28	...	2.52

The nitrogen content has been well maintained throughout the season and has increased slightly in December. The calcium content has increased consistently until December; then it has dropped, to increase again gradually. The ash content has followed closely that of calcium. No significant differences are noticed in the P₂O₅ content, it is more marked however in October.

As regards the K₂O content the same may be said.

(b) INFLUENCE OF FERTILIZERS ON *Stenotaphrum dimidiatum*.

Treatment	Nitrogen %		Ash %		CaO %		P ₂ O ₅ %		K ₂ O %	
Control	...	1.16	...	11.8	...	0.73	...	0.22	...	3.02
N	...	1.42	...	12.8	...	0.96	...	0.25	...	3.19
N P	...	1.39	...	13.6	...	0.83	...	0.55	...	3.23
N K	...	1.62	...	12.2	...	0.86	...	0.20	...	3.44
P	...	1.49	...	12.2	...	0.88	...	0.66	...	3.99
P K	...	1.29	...	11.0	...	0.75	...	0.60	...	3.53
K	...	1.34	...	11.6	...	0.62	...	0.22	...	3.27
NPK	...	1.82	...	12.6	...	0.97	...	0.60	...	2.77

The above results show that the application of phosphatic fertilizers produced a substantial increase in the phosphorus content of the plant and led to a marked degree an improvement in the P₂O₅ : CaO ratio.

Less pronounced effects were observed in the case of nitrogen.—

<i>Treatment</i>		P_2O_5	:	<i>CaO</i>
Control	...	1	:	3.32
N P K	...	1	:	1.61
British cultivated pastures	...	1	:	1.44

Tobacco

The "selection" experiment is still in hand and has given promising results. Leaves collected from plants obtained from "elite" seeds have shown an improvement in their sugar content, on the other hand leaves collected from control plots have averaged a very low sugar content, on these control plots only seeds from a plant with a low sugar content have been used.

Aloe Fibre

Preliminary experiments have been started in order to improve the local method of fibre retting.

Insecticide

An insecticide for the control of termites prepared in the laboratory has given promising results. Its composition is as follows:—

Arsenious Oxide	...	40
Potassium Antimonate	...	5
Borax	...	2
Jeweller's rouge	...	53

The mode of application and results on a large scale will be published in the *Revue Agricole*.

Milk

The quarterly chemical control of the milk has been performed at the Government Dairy. Only slight variations have been noticed in the fat content of the evening and morning samples, the average figures being 4.5 per cent and 3.5 per cent respectively.

Routine Analysis

Eighty-eight samples were received involving one hundred and forty-four determinations, the number of samples of Indian Saltpetre analysed has been particularly high.

For research work the figures are as follows:—

	<i>No. of Samples</i>		<i>Estimations</i>	
Tobacco	...	124	...	129
Grasses	...	106	...	636
Butter	...	12	...	60
Miscellaneous	...	32	...	82
		274	...	907

Miscellaneous

The Assistant Chemist, Mr. F. Berchon, has been called to military duty, and left the Division in March, and consequently this Division is now understaffed.

Mr. E. Haddon who was in charge of the tobacco analyses was transferred to another Division. I wish to record my deep appreciation of the work performed by him.

R. LINCOLN,
Chemist.

Tobacco Research Station Division

1. Work on the establishment of this station was continued and new areas were cleared for planting under tobacco during 1940 and 1941.

2. Climatic Conditions

The season was not so generally favourable as in the previous year and the rainfall was but slightly more than half that of the previous year. Rain fell on 100 days in comparison to 74 days in the previous year.

Rainfall 1940

Month	Inches	No. of days on which rain fell	Inches, daily	
			Highest	Lowest
January	... 1'13	... 6	... 0'53	... 0'05
February	... 4'80	... 16	... 0'98	... 0'04
March	... 2'53	... 8	... 1'03	... 0'05
April	... 0'24	... 3	... 0'13	... 0'02
May	... 5'24	... 14	... 2'24	... 0'01
June	... 1'67	... 8	... 0'62	... 0'01
July	... 1'29	... 12	... 0'47	... 0'02
August	... 0'80	... 13	... 0'16	... 9'02
September	... 0'22	... 3	... 0'12	... 0'03
October	... 0'20	... 3	... 0'14	... 0'01
November	... 0'67	... 3	... 0'39	... 0'05
December	... 6'98	... 11	... 2'47	... 0'06
	25'77	100	—	—

3. Experiments

Plant Breeding.—No new varieties were introduced during the year. Selection within varieties was continued though this was curtailed considerably by a severe attack of mildew, *Oidium* sp. Seed obtained will be utilised for further selection work during the coming year.

4. Field Experiments

Variety Trials.—Two trials were carried out, one with the already established varieties and one with the new varieties introduced from Canada. Both trials suffered most severely from mildew and the results of the trials were greatly affected. It was noticed that certain varieties appeared to be more susceptible than others. The yield and grade of leaf being thereby lowered to a much greater extent.

(a) In the first trial with the varieties Bonanza, Cash, Gold Leaf, Jamaica Wrapper, Virginia Bright, White Mammoth and Yellow Mammoth, there was no observable difference in the degree of infection by mildew and, these varieties were not so severely attacked as some of the new varieties.

This trial was laid down in four randomised blocks with plots of 1/40th acre, their being four replications.

The mean yield per acre and grade index were :

Variety	Mean Yield ± 127 kgs.		Grade Index ± 26	
Bonanza	...	270	...	337
Cash	...	359	...	318
Gold Leaf	...	322	...	272
Jamaica Wrapper	...	366	...	304
Virginia Bright	...	252	...	325
White Mammoth	...	246	...	326
Yellow Mammoth	...	306	...	345
GENERAL MEAN	...	303	...	318
SIGNIFICANT DIFFERENCE	...	133	...	27

Conclusions.—There is no significant difference between yields of varieties.

(b) In the second trial with the varieties introduced from Canada, viz., Charles' Special, Harrison's' Special, Little Orinoco, White Stem Orinoco, White Stem Mammoth, White Stem Willow Leaf, White Stem Pearl, Yellow Pryor and Yellow Orinoco, the varieties White Stem Mammoth and White Stem Orinoco appeared to be the most susceptible.

The trial was laid out in randomised plots of 1/40th acre with four replications. The mean yields per acre and grade index were :—

Variety	Mean Yield ± 107 Kgs.		Grade Index ± 26	
Charles' Special	...	411	...	262
Harrison's' Special	...	420	...	297
Little Orinoco	...	309	...	293
White Stem Orinoco	...	441	...	294
White Stem Mammoth	...	449	...	321
White Stem Willow Leaf	...	362	...	288
White Stem Pearl	...	410	...	282
Yellow Orinoco	...	300	...	277
Yellow Pryor	...	409	...	275
GENERAL MEAN	...	390	...	287
SIGNIFICANT DIFFERENCE	...	111	...	27

Conclusions.—The varieties White Stem Mammoth, White Stem Orinoco, and Harrison's' Special are significantly better in so far as yields are concerned than Little Orinoco and Yellow Orinoco. These latter varieties were more severely attacked by mildew than the other and this disease may have been a decisive factor in the reduction of yields. So far as grade index is concerned White Stem Mammoth is significantly better than all other varieties excepting Harrison's' Special.

5. Fertilizer Experiments

(a) An experiment to test the effect of varying levels of nitrogen, phosphorus and potash was carried out in the same manner as in the previous year, i.e., in a 3 x 3 x 2 partially confounded factorial design with two replications.

The fertilizers and levels of application were the same as in the previous year and full details are given in the report for 1939. The variety used in the experiment was White Stem Orinoco. The results of the experiment confirm fully the results obtained in the previous year and the results may be tabulated as follows :—

		S.E. of one plot 82.3 or 18.6 per cent. of mean Yield in kilos per acre (± 34)					
		N. 0.		N. 1.		N. 2.	Mean (± 19)
K. 0.	...	445	...	449	...	514	469
K. 1.	...	363	...	428	...	461	417
Mean (± 24)	...	404	...	439	...	487	443
		P. 0.		P. 1.		P. 2.	Mean (± 19)
K. 0.	...	397	...	455	...	556	469
K. 1.	...	348	...	425	...	479	417
Mean (± 24)	...	372	...	440	...	517	443

Conclusions.—There is a significant response in yield to applications of nitrogen and phosphate and the response does not deviate significantly from the linear increase. As in the previous year there is a depression in the yield of plots receiving potash but this depression is not significant.

There are no significant interaction effects.

There are no significant differences in the grade index of the various treatments.

(b) The following experiment was designed to test the effect of method and time of application of fertilizers. Two methods of application were employed, viz :—

A. applied around the plant,

B. broadcast in the row,

and there were three times of application viz :—

1. all applied one week before planting,

2. half applied one week before planting and half three weeks after planting,

3. one-third one week before planting, one-third two weeks after and one-third one month after planting.

The experiment was laid out in the balanced plot design with four replications : 24 plots and each plot was $1/40$ acre.

The fertilizer used was the standard mixture used on the Station, viz, 3N. 10P. 3K. applied at the rate of 400 kilos per acre.

The variety of tobacco was Yelow Pryor.

As in the case of all other experiments mildew attack was severe on all plots and the variety Yellow Pryor would appear to be rather susceptible to the disease.

The result of the experiment may be tabulated as follows :—

S.E. of one plot—65 or 14.2 per cent of mean Yield in kilos per acre (± 32) Time of application							
Method		1		2		3	Mean (± 19)
A.	..	423	...	474	...	556	... 484
B.	..	414	...	420	...	444	... 426
Mean (± 23)		418	...	447	...	500	... 455

Conclusions.—There is a significant response in yield to application of fertilizers around the plant under method A and there is a significant response in yield to times of application, three applications being significantly better than one.

6. Chemical Investigations

Special progeny plots were planted with the progeny of plants selected by the Chemist in the previous year and further selection was carried out by the Chemist during the year under review. Fuller report of these investigations are contained in the report of the Chemist.

7. Rotation Crops

The rotation crops grown during the year were limited to food crops, viz., maize, sweet potatoes, emberic and butter beans. The primary object in the cultivation of these crops was the production of planting material for distribution to planters, and during the year a goodly quantity of seed was so distributed.

8. Windbreaks

The planting of windbreaks was continued during the year and several thousand trees comprising *Filao*, *Casuarina*, *Equisetifolia*, *Cassia Florida*, *Cedrella Toona*, *Terminalia Arjuna*, and *Eucalyptus Gigantea* were planted.

Tobacco Station "La Ferme"

During the year under review strains of approved varieties were cultivated for seed production. The seed utilised is obtained from the Tobacco Research Station, and the seed obtained is distributed to planters free of charge through the agency of the Tobacco Board.

No experiments or trials are conducted at this Station.

General

The writer continued to act as Secretary, Tobacco Board, and Manager, Government Tobacco Warehouse, throughout the year and in August was appointed to act as Manager of the Government Maize Mill.

G. CORBETT,
Government Tobacco Officer.

Veterinary Division

HEAD I

A.—Disease Control

(1) FIELD OPERATIONS

Two contagious diseases were under control by the veterinary staff during the year: trypanosomiasis and tuberculosis.

Trypanosomiasis.—13,612 blood smears were examined during the year, namely, 12,953 from bovines, 652 from equines, 2 from sheep, and 5 from dogs. 13 positive cases were detected: 7 bovines and 4 equines infected with *T. Evansi* and 2 bovines with *T. Vivax*. The equines were treated with Nagamol and the bovines with tartar emetic for vivax and with soamin for evansi. All affected animals recovered.

Tuberculosis.—1,290 bovines were subjected to the tuberculin test during the year and 456 positive reactions were recorded, i.e., over 35 per cent. At the Government Stock Farm, Reduit, one adult cow which had received B.C.G. vaccine at birth developed clinical symptoms of tuberculosis during the year, and on postmortem examination, the carcass was found to be heavily infected. So far, animals which had been vaccinated with B.C.G. at birth were not subjected to the tuberculin test as it was reported that such animals could react positively without actually harbouring the tuberculous bacilli. In the light of what had happened at the Reduit Stock Farm, it was decided to test all the cows of the Government Dairy with tuberculin, and the results showed that 21 animals reacted positively out of those which had been vaccinated with B.C.G. at birth. The reacting animals were sent to the slaughterhouse where two carcasses were seized for generalised tuberculosis and in all the other cases partial seizures were made for localised lesions.

As a sequel, it was considered that vaccination with B.C.G. as practised under local conditions, afforded no reliable degree of protection to animals against tuberculosis and it was decided to stop further vaccinations. Moreover it was decided to cause, as promptly as possible, all animals in all breeding herds of the Colony to be tuberculin tested so as to determine the exact degree of infection.

While this campaign was being proceeded with, one particular herd which had been tested last year and had showed 14 per cent. infection, showed this year over 85 per cent. infection in spite of the fact that all the animals which had reacted last year had been destroyed. The cause of this surprising result is apparently due to the use this year of tuberculin of much greater potency, but the matter requires further investigation before a conclusion is arrived at.

(2) RESEARCH OPERATIONS

Twenty cases of abortion on cows of the Government Dairy were recorded during the year as against 24 in the previous year. Anti-streptococcus vaccine was applied and towards the end of the year the position had improved considerably.

B.—Animal Husbandry

(1) FIELD OPERATIONS

The 17 pure bred bulls of the Africander and Charolais breeds imported in 1938 have on the whole maintained their condition throughout the year. They had, at the end of the year, effected a total of 1,073 services, and 379 calves of the first cross progeny had been born.

(2) RESEARCH OPERATIONS

The breeding experiments at the Palmar Centre were handicapped to a sensible extent through the detection of tuberculosis on 11 cows of the "local" breed which had been introduced there without having been tuberculinised owing to their having received B.C.G. Vaccine at birth. They had to be sent to the slaughter-house and were replaced at the close of the year by 10 tuberculin-tested females. Otherwise progress had been satisfactory, and at the end of the year the number of progeny of the first generation had reached a total of 16, and a fair amount of interesting data had already been recorded.

C.—Improvement of Marketing of Animals and Animal Products

Fifty-nine visits were paid by the Veterinary Officer during the year to slaughter-houses of the Colony. Eleven carcasses were seized for tuberculosis and one for illegal slaughtering.

The number of cows and heifers of the milch breed which have been authorized to be slaughtered owing to unfitness for reproduction amounted to 255 during the year.

D.—Veterinary Education

Lectures were delivered throughout the year by the Veterinary Officer and his Assistant to students of the 1st, 2nd and 3rd year in Anatomy, Physiology, Pathology and Animal Husbandry.

HEAD II

Quarantine

REDUIT GOVERNMENT KENNELS

8 dogs, 5 males and 3 females, and 1 cat, imported from abroad, were kept for six months under observation at the Reduit Kennels. One male and one female died during detention, and at the end of the year six dogs were still undergoing their quarantine period.

F. E. LIONNET,
Veterinary Officer.

Government Dairy

Yield of Milk

The amount of milk produced during the year was distributed as follows :

	1940 <i>litres</i>	1939 <i>litres</i>
Supplied to hospitals ...	12,267	39,557
Supplied to the public ...	70,711	74,080
Fed to calves ..	5,682	4,410
Samples for control ...	398	375
Total ...	89,058	118,422

Demands from the public were numerous and could not be met totally owing to the limited output of the Dairy; a crowded "waiting list" is now a permanent feature.

Births

26 calves were born during the year, 12 males and 14 females, against 32 births in 1939.

Deaths

One elderly cow died from postpartem paralysis, and another died from sequel of abortion. Two calves which had been accidentally injured were destroyed as well as two of the cows which had reacted to the tuberculin test.

Sales

15 calves were sold to breeders, 11 males and 4 females; 4 cows were sold to the butcher owing to old age and sterility.

Abortion

20 cases were recorded during the year, against 24 in the previous year.

Tuberculosis

The tuberculin test was applied to the whole herd during the year, including all animals which had received B.C.G. vaccine at birth. In previous years only those which had not received B.C.G. were tested because the vaccination was reported to cause animals to react to tuberculin although they actually harboured no tuberculous lesions. As a result of the test, 21 animals of the B.C.G. group reacted, the others did not. Two of the reacting cows were slaughtered for examination of the organs and were found to harbour tuberculous lesions in the mesenteric glands. It was concluded therefrom that all those which had reacted should be considered as tuberculous and discarded. They were given to a butcher for slaughtering at the abattoir in return for 10 tuberculin tested milch cows of the local breed.

Y. LEFEBURE,
Officer in Charge of Dairy.

Rodriguez

Rainfall and general climatic conditions were fairly satisfactory during the year and good yields of the various crops were obtained. Tobacco, however, suffered severely from rust and insect attacks, and curing of the leaf was generally poor so that returns were correspondingly small.

Experimental Station

Various trials on lines already described in previous reports were continued. The results obtained at the Station are quickly made known to local farmers, to their benefit. Special attention was devoted to the propagation of fruit trees, particularly the bread fruit tree, of which 500 young plants were distributed. Numerous other plants were also distributed, with the exception of citrus grafts as citrus canker is still present in Rodriguez. This disease is being actively combatted all over the Island.

Coconut

A further area of ten acres was fenced in for coconut propagation at Baie du Nord. 432 plants were recruited in the plantations made in 1938 and 1939. 67 plants, the progeny of carefully selected trees, were planted at the Experimental Station.

Latania

215 *Latania Verschoffeltii* and 60 *Latania Loddigessii* were planted at Oyster Bay as part of the Latania Preservation Scheme.

Erosion Control

Anti-erosion measures were carried out at Citron Donis, Nassola, Latamer, Nouvelle Découverte, Decide and Montagne Trois Soleils. It is pleasant to be able to report that an increasing number of farmers are realising the value of erosion control and are applying the measures recommended. A new feature of the work is the part played by the recently formed Co-operative Credit Societies, the members of which unite to carry out control measures on each other's plots in turn.

Extension Work

The Agricultural Superintendent and the Overseer paid numerous visits to farmers all over the Island and gave advice on all matters of agricultural interest.

Prize Holding Scheme

There was 43 competitors this year. 18 prizes were awarded.

Livestock

The policy of introducing improved breeds of cattle, sheep and poultry for crossing purposes is bearing fruit. Not only is the livestock being improved in this way, but the amelioration already effected in grazing lands is also helping to produce better results. The number of livestock has increased considerably.

As a result of the cessation of imports of Madagascar cattle into Mauritius, the Rodriguez stock breeder has been able to secure better prices for his animals. However, to prevent excessive depletion of the local cattle population, a ban was placed on the indiscriminate exportation of cows.

Pigs, however, sold poorly, buyers being reluctant to export pigs to Mauritius under prevailing shipping conditions. An increase in the exportation of salt pork resulted.

Stock Farm

New sheds were erected to house the pure bred cattle recently imported. Buildings, water troughs, etc., were kept in good repair. The meadows were weeded and maintained in proper condition.

The Africander bull imported from South Africa was found to be suffering from tuberculosis and was shipped back to Mauritius.

It would appear that the Aylesbury duck is not a suitable breed for Rodriguez conditions.

Cattle Walk

Wide areas of the Cattle Walk were weeded, as also the plots of improved grasses at La Ferme, Piments and Pistache. It was unfortunate that owing to the dry spell in March-April most of the young filao plants died at Baie Topaz, where heavy recruiting had to be done. The plantation of new grass and fodder species progressed satisfactorily.

Fine drinking troughs were built at Limon, Pistache, Montagne Plate, Grand Var and Canne Paul.

Miscellaneous

The Agricultural Superintendent returned from sick leave spent in Mauritius on 29th April. Mr. H. Julien, Experiment Station Overseer, left for Mauritius on 4th May on being promoted to an Agricultural Instructorship. He was replaced by Mr. E. Rochecouste who arrived on 29th April.

Stock Inspector T. Rivalland visited Rodriguez in October. The Senior Agricultural Officer arrived in Rodriguez on 12th December.

R. JAUFFRET,

Agricultural Superintendent.

PART III

Legislation

The following Ordinances, Proclamations and Government Notices were passed during the year :—

Ordinance No. 9.—To amend the Cane Planters' and Sugar Millers' Control Ordinance, 1939.

Ordinance No. 20.—To provide for examination of fruit exported for purposes of sale.

Ordinance No. 38.—To amend the Department of Agriculture (Organisation) Ordinance, 1912.

Ordinance No. 46.—To amend the Cane Planters' and Sugar Millers' Control Ordinance, 1939.

Proclamation No. 1.—To remit stamp duties and registration fees chargeable on instruments executed by or on behalf of the "Haut de Flacq Co-operative Credit Society."

Proclamation No. 2.—To remit stamp duties and registration fees chargeable on instruments executed by or on behalf of "The Clemencia Co-operative Credit Society."

Proclamation No. 8.—To remit stamp duties and registration fees chargeable on instruments executed by or on behalf of the "Maheswarnath Co-operative Credit Society."

Proclamation No. 10.—To remit stamp duties and registration fees chargeable on instruments executed by or on behalf of "The Camp Diable Co-operative Credit Society."

Proclamation No. 19.—To proclaim the price to be paid for "Uba the Riche Fond" varieties of sugar cane in the areas specified in paragraph (1) of Proclamation No. 18 of the 22nd July, 1939.

Proclamation No. 20.—To proclaim the further control of planting of "Uba de Riche Fond" varieties of sugar cane.

Proclamation No. 30.—To remit stamp duties and registration fees chargeable on instruments executed by or on behalf of the "La Ferme Co-operative Credit Society (Rodrigues)".

Proclamation No. 32.—To remit stamp duties and registration fees chargeable on instruments executed by or on behalf of "The Chateau d'Eau Co-operative Credit Society (Rodrigues)".

Proclamation No. 43.—To remit stamp duties and registration fees chargeable on instruments executed by or on behalf of "The Corail Co-operative Credit Society (Rodrigues)".

Proclamation No. 49.—To remit stamp duties and registration fees chargeable on instruments executed by or on behalf of "The Piments Co-operative Credit Society (Rodrigues)".

Proclamation No. 50.—To remit stamp duties and registration fees chargeable on instruments executed by or on behalf of "The Nouvelle Découverte Co-operative Credit Society (Rodrigues)".

Proclamation No. 55.—To remit stamp duties and registration fees chargeable on instruments executed by or on behalf of "The Citrons Co-operative Credit Society (Rodrigues)".

Proclamation No. 60.—To remit stamp duties and registration fees chargeable on instruments executed by or on behalf of "The Central Flacq Co-operative Credit Society".

Proclamation No. 61.—To remit stamp duties and registration fees chargeable on instruments executed by or on behalf of "The Nassola Co-operative Credit Society (Rodrigues)".

Government Notice No. 46.—Regulation made under article 16 of the Animal Diseases (Consolidation) Ordinance, 1925, as subsequently amended, amending the Regulations published under Government Notification No. 198 of the 3rd September, 1925.

Government Notice No. 47.—Regulations made under article 26 of the Cane Planters' and Sugar Millers' Control Ordinance, 1939.

Government Notice No. 211.—Rules made under article 31 of the Co-operative Credit Societies Ordinance, 1913, amending the Rules published under Government Notification No. 173 of the 28th August, 1915.

